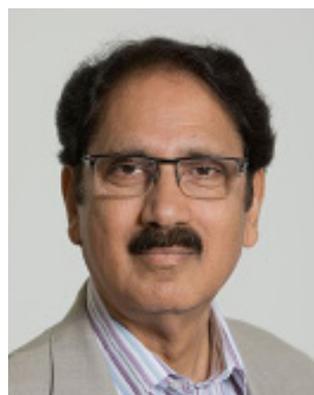


ALL IS NOT DOOM OR GLOOM

FLATTENING THE COVID- 19 CURVE IN KERALA - A SUCCESS STORY SO FAR

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The coronavirus pandemic, which emerged from China’s Wuhan in December, has infected more than 3 million people globally and more than 310,000 people have met with fatal outcome. Currently 1888513 people have been infected of which 3 percent are in critical state. In the United Kingdom deaths may be much higher due to increased number of people dying in the care homes. (Table :1)

Despite accounting for a fifth of the world’s population (21 per cent), the eight SAARC nations — India, Pakistan, the Maldives, Sri Lanka, Afghanistan, Bangladesh, Nepal, Bhutan — account for just less than 2 percent of the world total of coronavirus cases. In terms of fatalities, the SAARC total is nearly half a percentage point, although the rate is rising rapidly. On 15 March 2020 Indian Prime Minister Narendra Modi advocated a joint strategy to fight Covid-19 in the SAARC region, and proposed an emergency fund with an initial offer of \$10 million from India. Lockdown of 1.3 billion people was implemented on 24th March 2020 and is continued in majority of the country.

The state of **Kerala** in southwest coast of India is unique among the twenty-eight Indian states as it is often referred to as ‘God’s

own country’ because of its stunning landscapes of mountains, backwaters, rivers and beaches. With one of the longest life expectancy figures in India and human development indices on par with many developed countries, Kerala also has the highest literacy rate in India. The state has a population of over thirty-four million spread across 14 districts which are administrative units. In Indian federal government system, the responsibilities and financing of the health sector are divided between the national and the state governments and an effective collaboration between them is often the backbone of all successful programmes.

India’s first case of Covid-19 was reported from Kerala on 30 January 2020 brought by three students who returned from Wuhan, China. Extensive contact tracing of these individuals was done, and all effectively quarantined. The preparations to tackle the virus, however had started a good few weeks before it arrived which focused on mobilising resources, co-ordinating various sectors and ensuring compliance of the citizens. The state’s strategy was rooted on WHO-recommended plan of **contact tracing, isolation, and surveillance**. Kerala had experience of dealing with an outbreak of Nipah virus in 2018 which killed 17 people. Task forces consisting of several teams were formed in each district rapidly.

TABLE 1

Countries (As on 28/04/2020)	Total number infected	Dead	Case/1 million population	Death/1 Million population
World	310,2788	214,111	396	27.5
China	828,36	5,877	58	3
UK	157,149	21,092	2,315	311
USA	101,982,3	57,601	3,081	174
India	294,51	939	21	0.7



One in every five households in Kerala has a migrant, most of them in the Middle Eastern countries. By 8 March 2020 a family of three who came from Italy and two of their elderly relatives had tested positive and a massive and painstaking contact tracing effort was done. This process used their route maps i.e. the details of their daily travel history; when and where the patient had been in the period before the onset of symptoms, which were published in media, so that anyone who were in those places at the specified time could be advised regarding quarantine, from their day of arrival in India, 29 February 2020. Primary and secondary contact tracing was done effectively.

A regular inflow of expatriates from Covid-19 affected countries were tracked and, quarantined, isolating those who later tested positive. Contact tracing and quarantining of suspected contacts formed the crux of Kerala's Covid-19 management strategy. Screening of passengers on arrival at airports and seaports for symptoms by medical teams, steps to transport them safely to isolation/ quarantine areas were also taken and contact tracing were effectively done by a collaborative machinery consisting of health staff, administrators, voluntary workers etc. In each district the District Collectors (chief administrative civil servant) co-ordinated the efforts of all agencies and volunteers. The state health minister initially and later the Chief Minister, addressed the media daily and telecasted on mainstream television channels reassuring the public to a large extent and ensuring compliance with the tough measures.

A cluster containment strategy of early detection and breaking the chain of transmission was adopted. The district control cell is the hub of this process, and includes multiple teams: surveillance, call centre, psychological support, training and awareness, community-level volunteers, media monitoring, among others. The call centres were able to guide people within the state and outside, speaking different languages, provide information about code 19 infection and help available. The directorate of health services focused on the management of infrastructure and human resources to promote the government's action plan.

Isolation wards for Covid-19 patients in government hospitals were prepared in advance. Apart from hospitals, Covid-19 care homes for isolation facilities were arranged which are mainly intended at isolating those who had to be quarantined/ on home isolation, but could not be done effectively in their own homes for several reasons or did not have a home there. Temporary centres were created and developed under public-private partnership to reduce the impact on hospitals. This is done by converting other

institutions eg schools and colleges, hotels, resorts, even house boats into care centres with adequate facilities.

Kerala concentrated on a whole population approach to preventing the spread and containing the virus. Correct hand washing techniques and safe social distancing were widely published in the media. In their '**Break the Chain**' initiative, the government installed water taps and provided sanitisers at public places. Celebrities, children, policemen, students, singers, actors etc contributed to amplify the public health message of 'break the chain' through skits, dances, songs etc. Disha, a tele-counselling initiative provided information and support and the GoK mobile app by the Kerala government provided Covid related information along with Kudumbashree, Kerala's millions-strong women's only network and Accredited Social Health Activist, (ASHA) workers. There are other initiatives to support the mental health including the helpline by the Kerala chapter of Indian Psychiatric Society.

Kerala initiated an informal lockdown almost 2 weeks earlier than the national lockdown announced on 24 March 2020. Law enforcement agencies played a significant role even using drones in ensuring people stayed at home. In exercising the powers conferred by Central government's Epidemic Diseases Act, 1897, the Government of Kerala has issued regulations as Kerala Epidemic Diseases, COVID-19 Regulations, 2020 for the strict compliance of measures for the containment, management and control of Covid-19. Those who ventured out during the lockdown had to prove that their journeys were essential by producing a personal affidavit with the contact details. Participating in funerals or even going to hospital, people had to take advance permission from the police, if not, they will be stopped at various checkpoints, fined or vehicle ceased by police. As of 9 March, 2020 more than 4000 persons were under home or hospital quarantine in Kerala. Kerala is the only state in India that mandated 28 days of home quarantine for those returning from countries affected by coronavirus, against national guidelines for 14 days in India. Kerala health authorities are issuing relevant guidelines that are regularly updated to treat Covid-19 cases with respiratory distress that includes use of hydroxychloroquine and azithromycin/antivirals.

Along with the steps to contain the virus, the state also focused on welfare of people affected by the lockdown. A financial stimulus package for welfare benefits, free rations, pensions, subsidies etc was announced by the Kerala government. As of 28 April 2020, there have been 485 confirmed cases with 359 recoveries and 3 deaths in the state. Kerala has the lowest Covid-19 mortality rate of 0.62% among all states in India. Now they have started gradual relaxation of lockdown. While acknowledging the accolades bestowed by both national and international media on Kerala's 'flattening the Covid-19 curve' the general sense among the health sector is one of caution as it is premature to draw any serious conclusions about the behaviour of a novel pandemic. □

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Dr. C T Sudhir Kumar worked as a Consultant Psychiatrist across various Trusts in the UK and also held a research position at the Institute of Psychiatry London. Currently he holds honorary positions with organisations in India and has published around 50 papers and recently been associated with the national document "Dementia in India 2020".